Letter 8

Mr. Gordon Gibbs
Washington State DNR
411 Tillicum Lane
Forks, Washington 98331

March 27, 2002

Dear Gordon:

I am submitting to you another comment packet regarding Glacier Northwest's expansion proposal for the Mats Mats Quarry. It does contain comments on the pages your department recently mailed out, which caused an extension of the comment period to April 8, 2002. If you have any questions, please contact me.

Thank you very much for all your help during this very lengthy process.

Sincerely,

Rae Belkin

Rae Belkin
Mats Mats Area Coalition Coordinator
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Port Ludlow, WA 98365
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THIS PACKET CONTAINS THE FOLLOWING:

- Comments on the general contentions: No problems are anticipated; while impacts will increase, everything will stay the same.
- Comments and request for a new NPDES Permit.
- Comments on reclamation definition.
- Comments on newly introduced, "Marine Environment Report", pages 16-25.
- Barge totals for imported fill.
- Comments on truck size and Olympus Boulevard.
- Comments regarding freshwater-lens systems.
- Comments on page 13 of Appendix I.
- Location comment.

COMMENTS ON GENERAL CONTENTIONS:

No problems are anticipated

Impacts will increase, but everything will stay the same

- Page s-1: "The operator will continue current mining and barge transportation activities until approximately 2025." What about the additional barge loads of imported fill? Not every barge will leave with a load of material because of market fluctuations. Barge activities will increase. 1
- Page s-2: "Saltwater seepage could increase-although significant impacts would not be anticipated." Glacier has failed to consider phases 2 & 3 which (according to their consultants) contains the same type of rock and beach deposits. 2
- Page s-2: " No risk of highwall failure." According to page 1 of Appendix X, only the seaward quarry wall was evaluated for stability. On page 3 of this appendix, it states, "Adverse intersection of faults within the interior of the pit were identified, which may result in localized rock wedge failures." 3
- Page s-2: "Magnitude of fugitive dust impacts from mining would generally remain constant." However, on page s-3, it says, "Quarry reclamation with soil would generate additional fugitive dust as a result of soil movement." 4
- Page s-3: "All stormwater runoff from developed portions of the site would continue to be directed to the existing stormwater treatment and discharge systems." How will this work if the stormwater runoff treatment plan is disrupted by removal of the necessary ponds? If sediment builds up in the ponds or at the silt retention screen in Mats Mats Bay, there is no plan to deal with this. 5
- Page s-3: "Continuation of mining activities would not be anticipated to impact the quantity or quality of groundwater in existing offsite wells." A close look at the well known as EB-33 does not necessarily show this. Also, this conclusion might be different if the northwest quadrant had been explored. 6
- Page s-4: "While maximum sound levels would not be anticipated to increase, average sound levels from the quarry could increase slightly due to increased

activity during reclamation." No consultant is going to admit that sound levels will increase above the maximum- that would be illegal. No mention is made as what the actual numbers might be. Show me the numbers! 7

- Page s-4: "With proper adherence to proposed blasting standards, no impacts to any structures...would be anticipated from ground vibrations resulting from blasting." This seems to mean that Glacier has been using some other blasting standards since it does not say, "current standards." Are the referenced structures on or off the site? 8
- Page s-5: "...view impacts resulting from the proposal mining would not be significant." What about when the view-blocking mountain of overburden is used for reclamation in phases 1 and 2? You will be able to see right into the quarry from the housing development above Oak Bay Road that looks upon the bay and the quarry site. 9
- Page s-5: "The proposal would not result in new truck employee traffic to area roadways." However, there will be more traffic on the site due to off-loading of barges and the movement of fill around the site. 10
- Page s-5: "As under current conditions, barges would continue to be loaded/unloaded at the eastern edge of the site." This is not a current condition. The last off-loading had to do with repairing of the loading facility. There has been no off-loading of fill for many years. 11
- Page s-5: "...no significant change in marine transportation conditions would be anticipated." What about the 1,788 barges of imported fill. Barges often come to the site with equipment, material other than fill, to pick up rock from Mats Mats and then leave without off-loading. No matter what, there will be an increase in marine traffic. 12
- Page s-9: "Although spillage of rock into waters near the dock is not considered a significant impact (By whom?)." The marine life might take exception to the spillage. "...and clean off barge ends to insure a good seat for barge ramp aprons." Where will the "clean off" occur? 13

- Page s-9: "Ground water runoff from the area around barge loading facility should be captured and treated to avoid draining excessive fine sediment to loading impoundment." Where is the plan for this to occur during the term of the mining expansion? 14
- Page s-10: "...measures could include construction of noise absorbing sound barrier attachments; lining and/or reconfiguration of drop points; and, changes in plant operations." This permissive language must be changed to will include. Without it, there is the admission that without the listed measures, noise will be intrusive and increased. 15
- Page s-11: "All outdoor lights and security lights would be shielded..." It does not say where and how many existing outdoor lights there are (must do a pre-existing inventory) so no new ones will be added. 16

- Appendix XIII, page 2-3: "Water quality standards for marine waters of Admiralty Inlet, including Mats Mats Bay, are classified as Class AA (extraordinary)."- 1997 17
- Page 2-4: "Water quality data characterizing the existing condition of Mats Mats Bay itself is not available." Why mention the first sentence if no data is available?

COMMENTS AND REQUEST FOR A NEW NPDES PERMIT

Currently, Glacier Northwest operates using the NPDES/stormwater discharge permit WAG-50-1286. The National Pollutant Discharge Elimination System permit is required if "pollutants shall be discharged to any surface water of the state from a point source..." (WAC 173-220-020) A "pollutant" in this case means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water." (WAC 173-220-030) "Discharge of pollutant" and the term "discharge of pollutants" each means (a) any addition of any pollutant or combination of pollutants to surface waters of the state from any point source, (b) any addition of any pollution or combination of pollutants to the waters of the contiguous zone or the ocean from any point source, other than a vessel or other floating craft which is being used as a means of transportation. A "discharger" means owner or operator of any facility or activity subject to regulation under the NPDES program. (WAC 173-220-030)

Continuing, part of WAC 173-220-150 states that each issued permit shall require that:

a) All discharges authorized by the permit shall be consistent with the terms and conditions of the permit;
b) Any facility expansions, production increases or process modifications which would result in new or increased discharges of pollutants causing effluent limitations in the permit to be exceeded must be reported to the department by submission of **a new application** or supplement thereto; or, if such discharge does not violate effluent limitations specified in the permit, by submission to the department of notice of such new or increased discharges of pollutants;

c) Any discharge of any pollutant more frequent than or at a level in excess of that identified and authorized by the permit shall constitute a violation of the terms and conditions of the permit.

WAC 173-220-190 allows for modification and revocation of permits. Part (3) states: "The department shall modify or revoke permits only after public notice and opportunity for public hearing as provided in this chapter in those instances where changes are proposed which lessen the stringency of effluent limitations. In all other instances, the form of public notice and public participation, if any, shall be determined by the department on a case-by-case basis according to the significance of the proposed action." WAC 173-220-050 provides a full outline of the public notice procedure.

Why mention any of the above regulations? The mining expansion plan eliminates the sediment ponds and check dams, which are part of their current permit. On page 20, of their "Marine Environment Report", their consultant writes: "Puget Sound offers better circulation and dispersal capacity than Mats Mats Bay. Also, bioassays have found the main Puget Sound basin is not as sensitive to nutrient inputs as local bays and impoundments; this increased nitrogen levels would not be a concern (AESI 2001)." On page 13, Appendix I, "Hydrogeologic Evaluation", AESI writes, "Fine-grained sediment was observed to have accumulated within the Mats Mats Bay slip. Silt fencing had been placed around the perimeter of this area; although, the fencing was in disrepair in location." (September 2001)

These three facts become very important when considering the current stormwater plan.

- If the ponds are removed as the proposed phases are mined (there are no plans in the DEIS to replace them), then untreated stormwater (with sediment and nitrates) will be discharged directly into Mats Mats Bay to a

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place that has a silt fencing that is in disrepair. They might as well just dump it directly into the bay. 18 cont'd

- If Puget Sound offers better circulation and dispersal capacity than Mats Mats Bay, then why, during the 20-30 years of the mining expansion, do they continue to dump stormwater into Mats Mats Bay. 19

These changes at least call for a new NPDES permit. If not this, then a modification. The residents who live on this bay, and the people in the community, who enjoy this bay, deserve a public hearing. They comprise the "interested and potentially affected persons of the proposed discharge and of the proposed determination to issue or deny a permit for the proposed discharge." (WAC 173-220-050 20

Thank you for considering my request.

Rae Belkin

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COMMENTS ON RECLAMATION DEFINITION

The RCW's of the State of Washington include several definitions in regards to surface mining. Number 11 is about "reclamation". The first part of the definition covers underground mining. The second part covers surface mining. It says: "Although both the need for and the practicability of reclamation will control the type and degree of reclamation in any specific surface mine, the basic objective shall be to reestablish on a perpetual basis the vegetative cover, soil stability and water conditions appropriate to the approved subsequent use of the surface mine and to prevent or mitigate future environmental degradation.

Comments:

- "Perpetual basis" implies monitoring. There is no monitoring mentioned for any of these areas. 21
- Re. "vegetative cover"- Are hydroseeding, weeds acceptable? There is no watering plan to cover whatever might actually be planted. 22
- Re. "soil stability"- There is no plan for beach erosion or landslides on the outside perimeter of the site. 23
- Re "water conditions appropriate for subsequent use"- Since the subsequent use is housing, is saltwater intrusion appropriate? Is an outfall pipe appropriate (especially without monitoring)? 24

COMMENTS ON NEWLY INTRODUCED, "MARINE ENVIRONMENT REPORT" PAGES 16-25

- Page 17: "Prevailing wind patterns would limit deposition directly into Mats Mats Bay to relatively low levels. Higher amounts would fall in the narrow passage connecting Mats Mats Bay to the Puget Sound; however, this narrow body of water does not contain a large amount of surface area so the total is low." 25

Comment: While the entrance channel is narrow, this statement fails to take into consideration that the deposited dust is carried into the bay by incoming tides. This dust is then added to what has already settled in the bay.

- Page 17: "Only minor turbidity and minor sediment-related impacts are expected as a result of continued operation of the project. Low turbidity impacts to eelgrass beds are generally not severe and long lasting since these areas are naturally deposition environments. No significant impacts are expected." 26

Comment: The eelgrass beds are deposition environments because of quarry activities- it is not a naturally occurring phenomenon.

- Page 17: The dust control "measures could include dust controls at the rock crushing plant and high use roads." 27

Comment: This word needs to be changed to will.

- Page 17: "In addition, most of the sensitive habitat is closer to the shoreline and is away from the tug traffic and any upwelling of sediment as a result of prop wash." 28

Comment: The tugs do operate in shallower water as they have to start their engines here when leaving.

- Page 20, Post-Mining:

Comment: This section needs reworking. It is a mixed up combination of pre-mining and post-mining information.

- Page 20: Even though this section is a mess, I would like to comment on the following: "Puget Sound offers better circulation and dispersal capacity than Mat Mats Bay. Also, bioassays have found the main Puget Sound basin is not as sensitive to nutrient inputs as local bays and impoundments; thus increased nitrogen levels would not be a concern (AESI 2001)." 29

Comment: **However, for the length of the proposed mining expansion plan, STORMWATER IS DISPOSED OF IN MATS MATS BAY, not Puget Sound.**

- Page 20: "There is no reason to expect that normal barge operations would have any significant impact on listed species." 30

Comment: Normal does not include the 1788 barge trips to deliver fill. This is a new activity. 30 cont'd

- Page 21: Under Limited Mining Alternative, "Net results on aquatic habitat would be a reduction in duration of exposure to the low levels of water quality impacts (increased nitrate and fine sediments) delivered to Mats Mats Bay and the Puget Sound estimated for the proposed action. 31

Comment: This appears to mean that aquatic habitat and animal resources will be impacted by the much longer duration of water quality impacts if the proposed plan is adopted.

- Page 21: "Operating procedures should be reviewed to identify ways to prevent or reduce material spills during barge loading operations." 32

Comment: The underlined phrase should be changed to will be.

BARGE TOTALS FOR IMPORTED FILL

Known fact- A 4,000-ton barge contains 2,693 cu. yards. (p. 2-8)

If one divides the calculations found in Appendix VII, "Reclamation Fill Quantities", by 2,693, you can calculate the number of barge trips needed to bring in the reclamation fill.

- Phase #1: 0 (use overburden present on site)
- Phase #2: 310,000 divided by 2693 = 115 barges
- Phase #3: 360,000 divided by 2693 = 134 barges
- Phase #4: 1,046,000 divided by 2693 = 388 barges
- Phase #5: 1,150,000 divided by 2693 = 427 barges
- Phase #6: 1,138,400 divided by 2693 = 423 barges
- Phase #7: 811,600 divided by 2693 = 301 barges

TOTAL = 1,788 barges

Since reclamation also includes a time factor of two years per phase, it seems safe to assume that there will be extra barge trips above and beyond what is considered to be normal. I look directly at the barge loading facility and can testify that some weeks only have a visit (for pick up) of 1-2 barges. There will definitely be an increase in barging if the No Action Alternative is not chosen.

COMMENTS ON TRUCK SIZE AND OLYMPUS BOULEVARD

According to Washington State Patrol the outside width allowed for all vehicles is eight feet six inches. Rearview mirrors tolerances are five inches.

According to page 4 of Glacier Northwest's, "Traffic Study Update", (Appendix V), Quarry Road has "two lanes which range in width from 9.25 to 10 feet. Shoulders are present along both sides and vary in width from 1.5 to 2.5 feet." In regards to Olympus Boulevard, "Travel lanes are approximately 10.5 feet, with narrow shoulders present along most of the road. In some locations, the shoulder is negligible." "AASHTO guidelines recommend a minimum traveled way of 19.7 feet for Olympus Boulevard, with graded shoulders of 4.9 feet."

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If lanes average 10 feet in width, and vehicles can be 8 ½ feet wide, plus an allowance of 10 inches for mirrors (there are usually 2 of them), that leaves 8 inches for a shoulder since their consultants state that on Olympus Boulevard the shoulders are negligible or narrow. Can anyone safely use the roads their taxes maintain, which were created in the 1930's for the residents, if the lanes average 10 feet, the trucks occupy 9 feet 4 inches of the 10 feet, leaving a safety margin (between the negligible shoulder and the large trucks) of 8 inches?

After 68 years, the No Action Alternative seems an appropriate choice so people can walk, jog, horseback ride, and bicycle along their road without fear of getting hit or sprayed by gravel coming off the trucks.

WASHINGTON STATE PATROL

Size, Weight, and Load -- Chapter 46.44

Outside Width (46.44.010)

° Eight feet six inches (102 inches) inclusive of load for all vehicles

Tolerances:

1. Rearview mirror - 5 inches
2. Rubber fenders - 2 inches
3. Tires (due to expansion) - 2 inches
4. Safety appliances (clearance lights, rub rails, binder chains) - 2 inches
5. Appurtenances (door handles, door hinges, and turning signal brackets) - 2 inches

Maximum Height (46.44.020)

° 14 feet

Except:

1. Authorized emergency vehicle or repair equipment of a public utility engaged in reasonably necessary operations.

Maximum Length (46.44.030)

° Single vehicle - 40 feet, with or without load

Except:

1. The permanent structure of a single vehicle in combination not to exceed 48 feet; 56 feet with special motor vehicle permit.

   Exception: Refrigeration units placed on the front of van trailers.

Combination of vehicles:

1. The overall length of combination of vehicles consisting of a truck and trailer shall not exceed 75 feet, with or without load.
2. The overall length of a combination consisting of a tractor and semitrailer and full trailer or tractor and semitrailer and semitrailer (B Train), the trailing units shall not exceed 60 feet, including the space between them; 68 feet with a special motor vehicle permit.

COMMENT REGARDING FRESHWATER-LENS SYSTEM

I tried to educate myself about freshwater-lens systems. The most meaningful information came from a site explaining how they work in Hawaii. What I found most interesting was that they are found, not created, by man. A freshwater-lens system includes a lens-shaped freshwater body, an intermediate zone of brackish water, and underlying saltwater. Freshwater-lens systems are recharged by direct infiltration of precipitation and irrigation water, and by inflow from upgradient ground-water systems. At the quarry site, we only have the element of precipitation. Is 23-27 inches of rain enough to keep out the saltwater?

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El Niños and La Niñas as a Function of Observed and Projected Sea Surface Temperatures

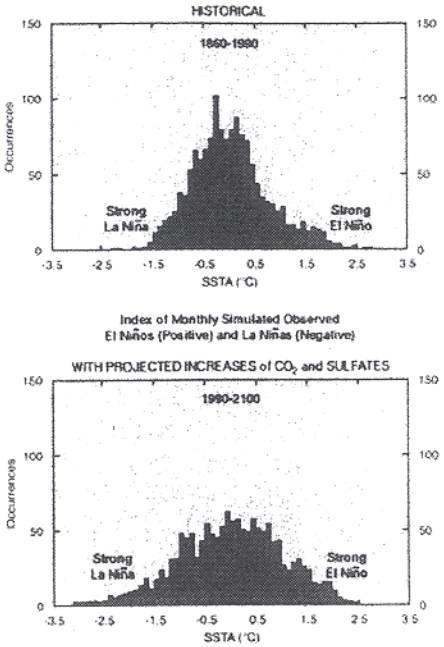


Figure 2. These model projections suggest stronger and more frequent El Niños and La Niñas as a result of climate change. Sea Surface temperature anomalies (SSTA) in the equatorial Pacific are used to measure the strength of El Niños and La Niñas. These model projections by the Max Planck Institute suggest a wider range of SST deviations from normal and thus more extreme El Niños and La Niñas in the future. The high bars in the center are occurrences of normal SSTs. In the projections in the bottom graph, these normal temperatures occur less frequently, while lower (La Niña) and higher (El Niño) SSTs occur more frequently. The Max Planck model is used here because it has been able to reproduce the strength of these events better than other models due to its physics and ability to resolve fine scale structure in the ocean. Source: Timmermann et al., 1999

Freshwater Lens Effect in Island Hydrology

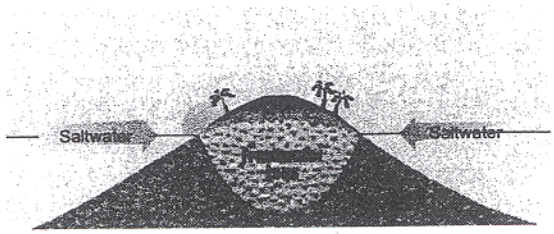


Figure 3. On many islands, the underground pool of freshwater that takes the shape of a lens is a critical water source. The freshwater lens floats atop salt water. If sea level increases, and/or if the lens becomes depleted because of excess withdrawals, salt water from the sea can intrude, making the water unsuitable for many uses. The size of the lens is directly related to the size of the island: larger islands have lenses that are less vulnerable to tidal mixing and have enough storage for withdrawals. Smaller island freshwater lenses shrink during prolonged periods of low rainfall, and water quality is easily impaired by mixing with salt water. Short and light rainfall contributes little to recharge of these sources. Long periods of rainfall are needed to provide adequate recharge. Source: Illustration by Melody Warford.

Path of Hurricane Georges in Relation to Puerto Rico with Precipitation Totals

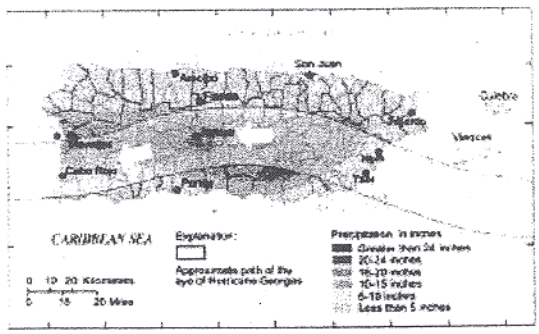


Figure 4. On September 21, 1998, Hurricane Georges swept across Puerto Rico. The eye of the hurricane was 25-30 miles wide and passed within 15 miles of the capital, San Juan, leaving a trail of devastation in its wake. The path of the hurricane and rainfall totals are shown here. Some areas received up to 26 inches of rain within 24 hours. Flooding, landslides, and catastrophic losses in infrastructure resulted. Hurricane Georges Map –USGS: http://water.usgs.gov/pubs/FS/FS-040-99/images/PR_fig01.gif

Letter 8 (cont'd)

Ground Water in Hawaii

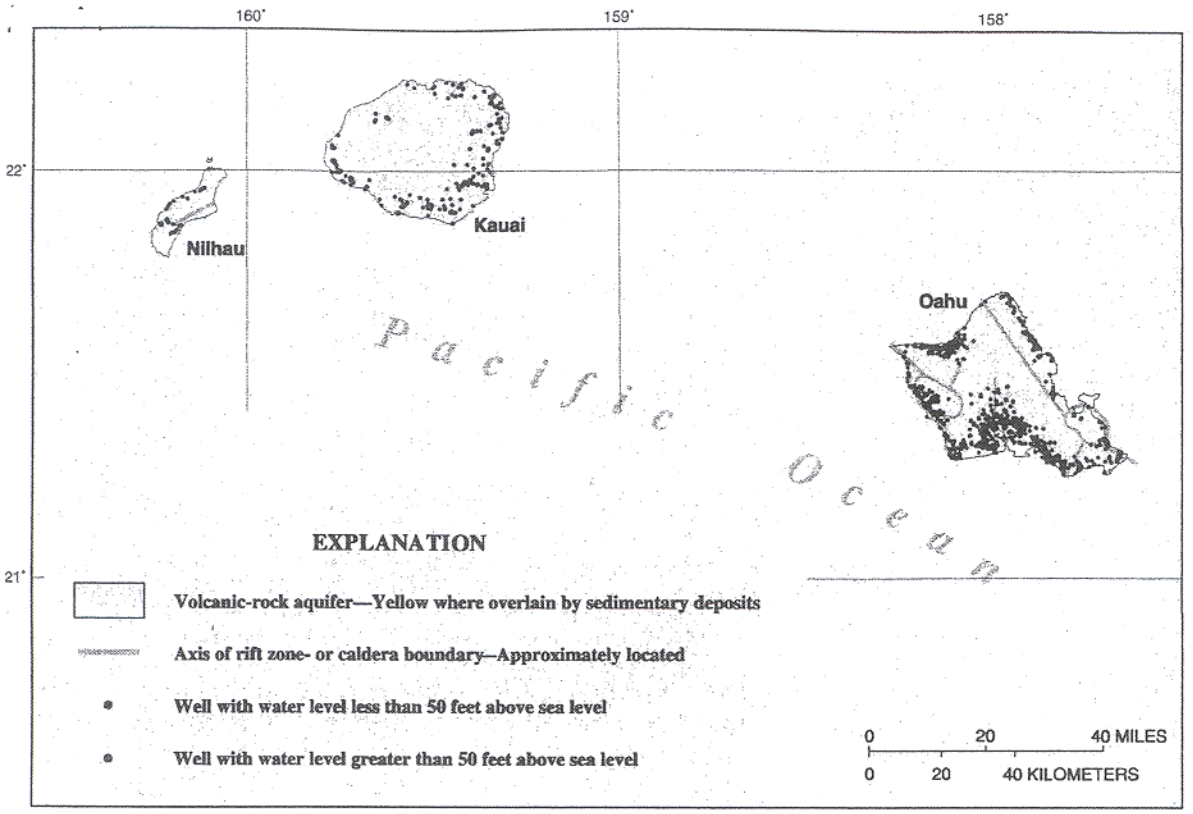
By Stephen B. Gingerich and Delwyn S. Oki

U.S. Geological Survey Fact Sheet 126-00 provides an overview of ground-water resources in the main Hawaiian Islands. This fact sheet is available online as an Adobe Acrobat (.pdf) file (1,060 Kb).

This publication requires Adobe Acrobat Reader (free) to be viewed. Get Acrobat Reader

Contents

This fact sheet is based on the publication Oki, D.S., Gingerich, S.B., and Whitehead, R.L., 1999, Hawaii *in* Ground Water Atlas of the United States, Segment 13, Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands: U.S. Geological Survey Hydrologic Investigations Atlas 730-N, p. N12-N22, N36.



WHAT ARE THE GROUND-WATER SETTINGS IN HAWAII?

In Hawaii, the major fresh ground-water systems are below the lowest water table, and are either freshwater-lens or dike-impounded systems. Where freshwater-lens and dike-impounded systems are adjacent, they form a single, hydrologically connected ground-water flow system. Minor perched systems can exist above the lowest water table.

Freshwater-Lens System

A freshwater-lens system includes a lens-shaped freshwater body, an intermediate transition zone of brackish water, and underlying saltwater. The transition zone can be quite thick (several tens to hundreds of feet) depending on the extent of mixing between freshwater and saltwater. Freshwater-lens systems are found in dike-free volcanic rocks and sedimentary deposits under confined or unconfined conditions. The most important sources of ground water in Hawaii are from the freshwater parts of these systems in volcanic rocks.

In general, for a given aquifer permeability, low recharge results in low water levels and a thin freshwater lens. For a given recharge rate, low aquifer permeability results in high water levels and a thick freshwater lens. In the most permeable volcanic rocks, the water table is no more than a few feet above sea level, and the slope of the water table is nearly flat. In some low-permeability volcanic-rock aquifers, such as in eastern Kauai and northeastern Maui, a vertically extensive freshwater-lens system has freshwater extending from below sea level to the water table that is several hundreds or even thousands of feet above sea level. Dikes may intrude the low-permeability rocks, but a vertically extensive freshwater-lens system can exist in areas that are dike free.

Meinzer (1930) defined water below the lowest water table as basal ground water to distinguish it from perched water. According to this broad definition, ground water in freshwater-lens and in dike-impounded systems both can be considered basal ground water. Descriptions of ground water in Hawaii have generally limited the use of the term "basal" to occurrences of ground water with a water table near sea level in high-permeability rocks, although Meinzer's definition of basal ground water was not so restrictive. Ground water in vertically extensive freshwater-lens systems can also be considered basal ground water using Meinzer's definition.

Freshwater-lens systems are recharged by direct infiltration of precipitation and irrigation water, and by inflow from upgradient ground-water systems. Discharge from freshwater-lens systems in highly permeable rocks is by diffuse seepage near the coast and to subaerial and submarine coastal springs. In a vertically extensive freshwater-lens system, much of the fresh ground water discharges directly to stream valleys above sea level where the ground surface intersects the water table. In highly

Many Islands in the Pacific rely on groundwater aquifers or lens' for their water supply. The existence of a freshwater lens is dependent on rainwater recharging into the ground. For many Pacific islands the size of the groundwater lens is limited by geographical area and the amount of rainfall they receive. Recent ENSO events led to a deficit in rainfall replenishing groundwater lens' which resulted in saltwater intrusion into many freshwater lens'. Over use of the groundwater supply, where more water is taken out then can naturally recharge back into the ground, also leads to saltwater intrusion contaminating the supply. Goundwater lens' are also extremely vulnerable to contamination from inadequate sanitation facilities.

COMMENTS ON PAGE 13:

- Landslide Hazards

AES, Inc. states: "No evidence of landslide activity was noted within the Quarry." "Several landslides are present on the south side of the passage leading into Mats Mats Bay." If you look at Figure 3.7.1 (after page 3.7.1), this description places the slides on Quarry property! There are no mitigations planned to correct this slide problem.

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- Erosion Hazards

Please note the comment (with its accompanying date of September 4, 2001): "Silt fencing had been placed around the perimeter of this area [the Mats Mats Bay slip]; although, the fencing was in disrepair in locations. I think it is safe to conclude that for a very long time, silt and the nitrates attached to it, have simply been leaching into Mats Mats Bay. There is no plan to repair or replace this fence.

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range between 4 and 350 gpm. These wells indicate hydraulic gradients that generally mimic the ground surface topography.

2.5 Geologic Hazards

Existing geologic hazards within the project vicinity, including landslides and erosion hazards, were assessed through visual geologic reconnaissance, subsurface explorations, and review of existing geologic literature. The existing geologic hazards on-site and in the immediate vicinity of the project are discussed below.

Landslide Hazards

No evidence of landslide activity was noted within the quarry. With the exception of areas actively being mined, bedrock typically possesses a low risk of slope instability.

Landslide activity was observed off the Mats Mats Quarry site to the west. Several landslides are present on the south side of the passage leading to Mats Mats Bay. This slope is composed of Vashon Drift sediments and is approximately 30 feet high. Where observed, slope gradients were estimated at 80 to 100 percent. Three slides were noted in this vicinity during visual reconnaissance in September 1999. All three slides showed evidence of recent activity. In areas, bank retreat from 10 to 20 feet was observed. Erosion from wave action was also noted at the toe of the slopes. Based on conversations with one of the property owners, landslide movement along this slope occurred within the last 3 years.

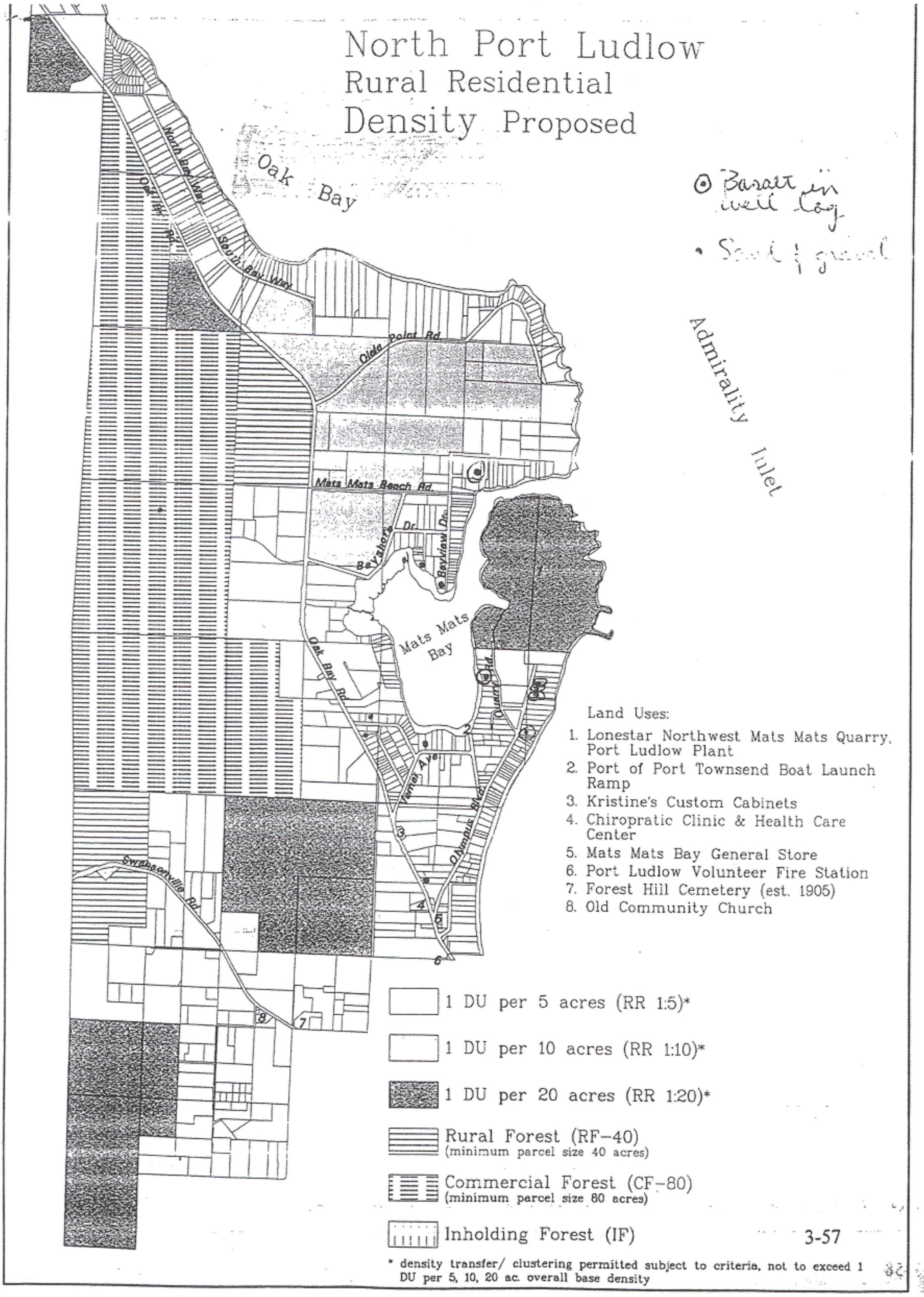
Erosion Hazards

No recent evidence of erosion was observed in the Mats Mats Quarry at the time of our fieldwork. The bedrock is relatively sound and resistant to erosion from concentrated and sheet flow. Fine-grained sediment was observed to have accumulated within the Mats Mats Bay Slip. Silt fencing had been placed around the perimeter of this area; although, the fencing was in disrepair in locations.

LOCATION COMMENT

Sometime ago, Glacier Northwest (then Lone Star Northwest) provided the attached map. After reading the well logs in the Hydrogeologic Report, I plotted the location of offsite wells and made a note as to whether they were in sand and gravel or basalt. The reason for this was to show that the Mats Mats Quarry does not operate in a vacuum. Basalt appears to found from the intersection of Quarry Road and Olympus Boulevard north to properties on the other side of the entrance channel to Mats Mats Bay. 38

Of equal importance is the fact that the offsite wells on the west side of the entrance channel (across from the quarry site) seem to be located in sand and gravel. This may account for the vibrations felt on that side. 39


North Port Ludlow
Rural Residential
Density Proposed
Oak Bay
Admiralty Inlet
North Bay Way
South Bay Way
Oak Bay Rd.
Olde Point Rd.
Mats Mats Beach Rd.
Bayshore Dr.
Bayview Dr.
Mats Mats Bay
Oak Bay Rd.
Verner Ave.
Olympus Blvd.
Swansonville Rd.
Land Uses:
1. Lonestar Northwest Mats Mats Quarry, Port Ludlow Plant
2. Port of Port Townsend Boat Launch Ramp
3. Kristine's Custom Cabinets
4. Chiropratic Clinic & Health Care Center
5. Mats Mats Bay General Store
6. Port Ludlow Volunteer Fire Station
7. Forest Hill Cemetery (est. 1905)
8. Old Community Church
1 DU per 5 acres (RR 1:5)*
1 DU per 10 acres (RR 1:10)*
1 DU per 20 acres (RR 1:20)*
Rural Forest (RF-40)
(minimum parcel size 40 acres)
Commercial Forest (CF-80)
(minimum parcel size 80 acres)
Inholding Forest (IF)
3-57
* density transfer/ clustering permitted subject to criteria, not to exceed 1 DU per 5, 10, 20 ac. overall base density

Response to Letter 8

MATS MATS AREA COALITION (March 27, 2002)

1. Because of the physical and tide limitations of the barge loading area, the proposal does not change the maximum loading/unloading capacity of four barges per day. Please refer to the *Transportation* section of this Final EIS for additional discussion on barge traffic under the *Proposed Action*.

2. Some marine seepage is expected in all Phases (1 through 7) from the mine walls that extend below sea level. As indicated in the *Groundwater* section and *Appendix I* of this Final EIS, additional marine seepage into the mine area is a potential impact primarily to mine dewatering operations.

3. Comment acknowledged. Because the interior of the pit would be mined, localized rock wedge failures do not represent critical headwall failures, beyond ensuring sufficient awareness to protect workers. Therefore stability analysis of the interior wedge failures is not required to assess feasibility of the proposed mining permit.

4. In the intent and the context of the two cited statements, the mining activities at the Quarry and the reclamation activities at the Quarry are two separate sources of fugitive dust.

   The first cited statement refers strictly to the facility's mining operations such as blasting, crushing, and drilling. The magnitude of the dust impacts associated with these activities would remain constant with or without the *Proposed Action*; the mining practices and rates at the Mats Mats Quarry would not change as a result of the *Proposed Action*.

   The cited statement in the Draft EIS addressing the fugitive dust impacts associated with the reclamation process acknowledged that additional fugitive dust would be generated during the reclamation process.

   Also, the modeling analysis examined the scenario of full operation of the mining and processing areas concurrent with full reclamation activities. Because the amount of equipment would not be increased to accommodate simultaneous reclamation and active mining, these activities would not typically occur simultaneously, or they would operate at lower levels of activity when both mining and reclamation do occur simultaneously. This indicates that the assumption of concurrent full mining and full reclamation activities used in the air quality analysis is conservative.

5. The termed developed referred to mined and reclaimed area. Storm water management for mining operations is typically a dynamic process. During phased mining and reclamation, replacement storm water ponds, consistent with NPDES conditions and standards, would be provided to control and treat storm water prior to mining in areas that would result in the elimination of a storm water pond. Please also refer to Response to Letter 7 (Mats Mats Coalition, March 7), comment 3.

6. Pleas refer to Response to Letter 4 (Jefferson County), comment 41 for a discussion on groundwater hydrology.

7. The maximum sound levels are generally due to very short-term events that may be the result of bangs, bumps, alarms, etc. If the nature or location of the activities or equipment were not expected to change, then the maximum sound levels would not be expected to increase. The *Proposed Action* would not require more equipment than currently exists. Therefore, typical sound levels (maximum and average) would be anticipated to decrease with the *Proposed Action* due to equipment going deeper into the pit creating taller topographical barriers between the sources and receivers.

8. At the time of Draft EIS issuance, the Department of Labor & Industry was in process of re-writing Washington State Standards (WAC 296-52) governing blasting. These are the proposed blasting standards referred to in the quoted text. The proponent (Glacier NW) has proposed to design each blast using a scaled distance of 70, which goes further than required in both the original and new State Standards in limiting blast vibrations.

9. Please refer to Response to Letter 7 (Mats Mats Area Coalition – March 7), comment 116.

10. Comment acknowledged. The number of truck and pieces of equipment on the site is not proposed to increase under the *Proposed Action*. Please refer to Response to Letter 4 (Jefferson County), comment 56.

11. Clean soils for reclamation have been historically imported by barge and stockpiled on the site. Please refer to Response to Letter 1 (Department of Ecology), comment 1 and Response to Letter 4 (Jefferson County), comment 7.

12. Please refer to the *Transportation* section of this Final EIS for detail on barge traffic under the *Proposed Action*. Please also refer to response to comment 1 of this letter.

13. The clean-off area for ramp seating occurs at the off-site barge unloading area (i.e. the location where mined rock is unloaded). Material clean-off is conducted in a manner where material does not reach the water. Please refer to the *Plants & Animals* section of this Final EIS for detail on marine impacts under the proposal.

14. Comment acknowledged. The cited statement has been revised to read "surface water" rather than groundwater. All surface water in the barge area is directed to an existing collecting sump for pumping into the S-2 storm water treatment system.

15. The operators of mining operations normally require reasonable flexibility in determining which mitigation measures would be most effective, cost-efficient, and feasible from an operational standpoint. Incorporating all of the potential mitigation measures may not be practicable or necessary for the operation to meet the applicable noise limits or to reduce impacts to off-site receivers.

    The intent of the cited measure is that sound level measurements would be conducted to verify that the 42" Jaw sound level does not exceed that of the 36" Jaw. If the 42" Jaw sound level at the site boundary exceeded that of the 36" Jaw, measures to reduce the sound level will be implemented prior to full-time operation of the 42" Jaw. The cited measures to reduce jaw noise were offered as examples of measures that could be

implemented to reduce noise from the 42" Jaw, if necessary, but there is a wide range of other measures that could also be used to reduce noise levels.

16. The Mats Mats Quarry contains limited lighting fixtures. The quarry lighting is limited fixtures in and around the shop area and barge loading area. Lighting is primarily used for maintenance, security and occasional barge loading.

17. The state has marine water quality standards which pertain to Mats Mats Bay and Admiralty Inlet (Chapter 173-201A-140) as described in the EIS. There were some water quality data available at the time of the Draft EIS publication, which were reported and evaluated in the Draft EIS. Since that time, additional water quality samples were collected and the water quality analysis was updated in *Appendix XIII* to the Final EIS to include these new data. Please see the response to Letter 4 (Jefferson County), Comment 34 and *Appendix XIII* to the Final EIS for discussion of these results.

18. Treatment ponds would always be provided throughout the mining operation. The NPDES Sand and Gravel General Permit issued for the mine (Permit WAG-50-1286) regulates discharge of all water. Runoff from the quarry during mining and reclamation would be treated prior to discharge, as described in the *Surface Water* section of this Final EIS, and the response to Letter 7 (Mats Mats Coalition – March 7), comment 31.

    Storm water management for mining operations is typically a dynamic process. During phased mining and reclamation, replacement storm water ponds, consistent with NPDES conditions and standards, would be provided to control and treat storm water prior to mining in areas that would result in the elimination of a storm water pond. Please also see the Response to Letter 4 (Jefferson County), comment 33 regarding the silt fence in the Mats Mats Slip, which is not a part of the on-site treatment of discharge from the quarry.

19. Please refer to Response to Letter 4 (Jefferson County), comment 37 for a discussion dispersal capacity of Mats Mats Bay.

20. Neither the points of discharge nor the treatment of discharge varies between the alternatives, including the no action alternative. All alternatives would continue to discharge under the existing NPDES Sand and Gravel General Permit, which is specific to the property, its use as a mine, and the current discharge locations. Please see the response to Letter 7 (Mats Mats Area Coalition – March 7), comment 51.

21. Comment acknowledged. Planning and implementation of site reclamation would be approved and monitored by the DNR.

22. Please refer to Response to Letter 7 (Mats Mats Area Coalition – March 7), comments 85, 86 and 88 for discussion regarding reclamation.

23. Please refer to Response to Letter 7 (Mats Mats Area Coalition – March 7), comment 8 for a discussion on off-site landslide areas.

24. The proposed Reclamation Plan is designed to accommodate post-mining uses. The existing site zoning would allow single family residential use. Upon any future application for residential use on the site, a detailed analysis of drinking water well conditions would be required.

The outfall pipe noted on the reclamation plan is associated with the discharge of treated stormwater runoff collected from final grade elevations higher than mean sea level, and therefore is not a saltwater mitigation measure as alluded to by the comment author.

25. Because tidal forces divide equally between incoming and outgoing tides, dust generated on the site can potentially settle during an incoming tide half the time. Also, not all dust that settles in the entrance channel during an incoming tide would deposit in the bay. Much, if not most, would likely stay in suspension and be carried out again with the outgoing tide. This is due to the size of the material and energy contained in moving water. Nevertheless, peak sediment deposition rates as a result of project operations were computed to be a maximum of 0.2 millimeters (total) over the 16 years of mine operation. The expected sediment delivery rate is considered inconsequential in its ability to impact aquatic species, even if it were to become locally concentrated by tidal action. Please see Response to Letter 2 (Department of Fish and Wildlife), comments 1 and 2 for further detail.

26. The statement regarding deposition and eelgrass beds is a general conclusion. Deposition is a naturally occurring event in marine environments and eelgrass is highly adapted to small depositional events[1].

27. Comment acknowledged. The Marine Environment Report provides impacts analysis and mitigation recommendations. Agencies with jurisdiction would decide whether or not to adopt recommendations as required mitigation.

28. Tug operations would continue as they have for many years previously. Any fine sediment likely to create a plume would have long since been disturbed and carried away by the currents.

29. Comment acknowledged. The outfall for treated storm water during mining would be to Mats Mats Bay. Refer to the *Surface Water* section of this Final EIS for discussion on water quality impacts to Mats Mats Bay under the *Proposed Action.*

30. The approach and departure procedures for barges are similar whether the barges are full or empty. For example, forces are directed in roughly the same direction to both accelerate a full barge during departure, and decelerate a loaded barge during arrival. The relative impacts on existing conditions of the area affected by barge transport are similar. Please refer to the *Transportation* section of this Final EIS for a discussion on the number of barge trips under the *Proposed Action*.

31. The cited statement was intended to indicate that it is expected that water quality impacts from the limited mining alternative would be less than the low level of impact expected for the *Proposed Action*. Both levels of impact are anticipated to be low with no significant water quality impacts identified.

[1] Phillips, R.C. 1984. The ecology of eelgrass meadows in the Pacific Northwest: a community profile. (Report No. FWS/OBS-84/24). U.S. Fish and Wildlife Service.

32. Please refer to response to comment 27 of this letter. Please also refer to the *Plants and Animals* section of this Final EIS for a listing of proposed measures to minimize barge spillage.

33. Comment acknowledged. Please refer to response to comment 1 of this letter.

34. Comments acknowledged. Please refer to Response to Letter 4 (Jefferson County), comment 75.

35. The dynamics of a freshwater lens system is site-specific, and is often associated with. island groundwater conditions as noted in the comment. Although the Mats Mats Quarry is surrounded on three sides by marine water, interpretation of the regional hydrogeology indicates the freshwater/saltwater interface beneath the quarry occurs as a coastal wedge system. Therefore, the dynamics of a freshwater lens system is not directly applicable for evaluating existing groundwater conditions beneath the site. The *Groundwater* section and *Appendix I* of this Final EIS includes (1) a detailed description of the conceptual hydrogeologic model for the site and vicinity, and (2) a discussion of potential changes to the freshwater/saltwater interface beneath the site.

36. See response to Letter 7 (Mats Mats Are Coalition – March 7), comment 8 for discussions on the Washington State Department of Ecology's Coastal Zone Atlas slope stability classifications and landslide observations.

37. Please refer to Response to Letter 4 (Jefferson County), comment 33.

38. Basalt is present throughout the Mats Mats and Port Ludlow areas. In some locations it is exposed at the ground surface (Mats Mats Quarry and Olele Point). In other areas the basalt is overlain by varying thicknesses of sedimentary (glacial) deposits. Additional discussions of regional geology and hydrogeology are included in the *Earth* and *Groundwater* sections of this Final EIS.

39. The comments related to vibrations are acknowledged. On-site and off-site blast vibration measurements have not indicated differences in peak particle velocities attributable to different off-site geological conditions. In addition, differences in geologic conditions are difficult to discern due to the very low amplitude of off-site vibration levels.